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Government of India
Ministry of Electronics and Information Technology
(IPHW Division)

Subject: Minutes of the Meeting regarding Incorporation of NavIC in Position, Navigation and Timing (PNT) applications in India held on 02.09.2022 in MeitY through Video Conferencing

A Meeting was held under the Chairmanship of Shri Amitesh Kumar Sinha, Joint Secretary, Ministry of Electronics and Information Technology (MeitY) with the representatives of ISRO, Department of Telecommunications (DoT) and industry regarding the subject matter on 02.09.2022 at 4 PM through Video Conferencing (VC). The list of participants is annexed.

2. Smt. Asha Nangia, Scientist-‘G’, MeitY welcomed the participants and explained that Department of Space has send a communication to DoT regarding the **Incorporation of NavIC in Position, Navigation and Timing (PNT) applications in India**. DoT has requested MeitY to suggest the timelines for implementation of NaviC in the mobile phone handsets, being marketed in India, after due consultations with stakeholders. The industry had sought some clarifications regarding implementation of NavIC, the response provided by DoT has been shared with the industry. She expressed that the meeting has been convened to deliberate on the subject matter and take a considered view on the same. The key points discussed in the meeting, *inter-alia*, include:

- Shri Rajesh Sharma from ICEA informed that the NavIC can be implemented in new 5G mobile handsets.
- Industry members suggested that acquisition may be allowed on L1 band. In response, representatives of ISRO informed that if L1 band is allowed for acquisition then it will not be complete NavIC solution.
- Shri Binu George from Samsung informed that in addition to the chipset, NavIC support requires Antenna, LNA, filters and related RF components. This would add to cost as it

requires hardware design changes and additional investments to support devices specific to India. Further, the companies have already prepared for models to be launched in 2024.

- Shri Neeraj Sharma from UNISOC informed that presently in 4G, their chipsets support L1 band only and do not support L5, however, if L1 band can be made available, it is also possible to support NavIC on LTE chipsets. New developments are happening in 5G side, therefore, industry can add L5 band to support NavIC on 5G smart phones.
- Shri Karthik from MediateK informed that in next two years they expect about 80% mobile phones on 5G. On 5G all the chipsets of the company support NavIC with certain additional hardware with some cost enhancement. Further, L1 band is needed to provide support for 4G devices. He added that GPS is not supported even today in Feature phones.
- The representative of ISRO informed that all the upcoming satellites will be having L1 band and 1st satellite is envisaged to be launched by the end of this year and the other satellites are expected to be launched within 2 to 2.5 years. The L1 band is envisaged to be introduced by 2024-25, however, the exact date for the same cannot be provided at this stage. He informed that that ISRO will continue to support the L5 and S bands even after the introduction of L1 band for the NavIC. It was also informed that 4G standards are there to support the NavIC.
- The representative of OPPO informed that there is no extra cost to the companies on R&D and design for the L1 band, however, for L5 band, extra cost has to be incurred as R&D is required. He informed that the company can plan if specific band(s) for NavIC can be specified. He also informed that upgrading the old mobile phones for NavIC support is a challenge. He suggested that the technical challenges, if any, may be fixed by ISRO and NavIC team.

In response, ISRO informed that the mandate will apply to new devices only and not to the old ones. It was added that ISRO wants that mobile phone handsets being marketed in India

should support NavIC and it is not specifying any band, as implementation of band is optional.

3. The Chairman concluded the meeting with the following action points:

- DoT to provide a comprehensive document w.r.t. essential requirements / specifications to MeitY.
- ISRO may provide the technical support needed for implementation of NavIC in new smart phones.
- As agreed by most of the stakeholders, the mobile phone manufacturers and chipset companies should not miss the timeline of 01.01.2025 for implementation of NavIC in new smart phones.
- To finalize / conclude the matter, one more meeting may be convened by MeitY.

4. The meeting ended with vote of thanks to the Chair.

Annexure**List of participants in the meeting regarding Incorporation of NavIC in Position, Navigation and Timing (PNT) applications in India, held on 02.09.2022 in MeitY, through Video Conferencing**

- Shri Amitesh Kumar Sinha, Joint Secretary, MeitY - **Chairman**
- Smt. Asha Nangia, Scientist-‘G’, IPHW Division, MeitY
- Shri Ravinder Kumar Meena, Scientist-‘D’, IPHW Division, MeitY
- Dr. Manish Saxena, Director, SATNAV Programme Office, ISRO
- Shri Praveen S, Deputy Secretary, ISRO.
- Shri Sanchit Kumar Garg, Assistant Director General, DoT
- Shri Rajesh Sharma, ICEA
- Dr. Arpita De, ICEA
- Shri Sandeep Kochhar, MAIT
- Shri Rishi Verma, MAIT
- Shri Rai Vikrant, COAI
- Shri Binu George, Samsung
- Shri Ramu Patchala, APPLE
- Shri Chetan Chauhan, OPPO
- Shri Varun Bhardwaj, OPPO
- Shri Krishan, VIVO
- Shri Manish Jain, Xiaomi
- Ms. Deepali Sharma, Transsion Holdings
- Shri Nitesh, Optiemus
- Shri Karthik, MediaTek
- Shri Sidharth Choudhary, Qualcomm
- Shri Vinosh James, Qualcomm
- Shri Neeraj Sharma, UNISOC
